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Abstract: Building on work by Bertrand Gille (1978), Bernard Stiegler argues that waves of technological automation tend to be characterised by periods of social 'disadjustment', when the rapid pace of change leaves political and social support systems inadequate to the task of ensuring societal cohesion. In the absence of adequate rules for the government of consumption, we can see this technological disadjustment symptomatised in a phenomenon of 'generalised addiction'. We are living through one such period at the moment, struggling in the wake of disintegrating older social norms, and prior to the birth of new ones better able to mitigate the toxic potential of our technological *pharmaka*. But emerging work in addiction research facilitates the argument, made here, that epidemics of generalised addiction are not unique to the digital era. The works of Plato can be interpreted as a response to an addiction epidemic in fifth-century Athens, which was attributable, in turn, to the technological revolution of alphabetic writing. The comparison of then and now, two periods of technological change bringing political turmoil, throws up multiple parallels with the ongoing transformations of digital culture. Athenian *symposia* functioned as sanctuaries where aristocrats, displaced from their traditional position at the heart of an increasingly chaotic city, retreated to experiment with religious, poetic and pharmaceutical oblivion. They accordingly bring to mind both the anxiety-relieving 'zones' of escape and disavowal sought out by addicts in using, and the internet echo chambers into which we retreat from an increasingly fragmented public sphere. In a move that hints at an exit strategy for our own period of generalised addiction, Plato builds on the logical thinking made possible by the new technology of writing to reinvent and readjust a dislocated political morality.

Keywords: addiction — democratic crisis — dopamining — fake news — Plato — psychosocial dislocation — Bernard Stiegler — technological disadjustment

Automations, Technological and Nervous: Addiction Epidemics from Athens to Fake News[1]

Building on work by Bertrand Gille (1978),[2] Bernard Stiegler argues that waves of technological automation tend to be characterised by periods of social 'disadjustment', when the rapid pace of change leaves political and social support systems inadequate to the task of ensuring societal cohesion.[3] We are living through one such period at the moment, struggling in the wake of disintegrating older social norms, and prior to the birth of new ones better able to mitigate the

toxic potential of our technological *pharmaka*. The environmental stresses of neoliberal existence combine, to vicious effect, with an economic model of 'dopamining',[4] in which everything from social media and fitness fanaticism, to sugar, gambling, the pharmaceutical industries and even religion, compete to hack into and monetise our dopamine systems. As a result, and in the absence of adequate rules for the government of consumption, this technological disadjustment is symptomatised in a phenomenon of 'generalised addiction'.[5] The expression comes from psychologists, analysing proliferating rates of dependence not just on coffee, alcohol and opioids (America's 'pain epidemic', linked in turn to the growth of 'white morbidity'), but also – and perhaps above all – digital technologies. There is a burgeoning literature on the automation of cognition, which Stiegler, Parisi and Massumi, among others, relate to contemporary technological automation and to algorithmic technologies able to exploit the mechanics of our neural circuitry. Research in this area describes how experience and cognition are automated by marketing techniques, which deploy high-intensity doses of electrical stimulus to tap directly into our baser drives and short-circuit rational deliberation. Franco 'Bifo' Berardi accounts for the recourse to online pornography in similar terms, as an 'attempt at emotional automation' on the part of users, insofar as it prescribes their experience and habituates them to respond only to a certain kind of stimulus.[6] But these are only one aspect of what we might more expansively term the automation of the nervous system, which needs in turn to be situated in relation to the broader, dislocated, ecology of contemporary consumption.

Emerging work in addiction research enables us to see that the epidemic of generalised addiction is not unique to the digital era, however. Waves of addiction hitherto dismissable as politicised metaphor and hyperbole in fact overlap with major shifts in the technological organisation of society across history. They moreover map onto revolutions in philosophy, with philosophers like Kant and Plato having been instrumental both in diagnosing the intoxications of technology dependence and in reinventing educational norms around the new technical system. Chad Wellmon has persuasively shown how Kant formulated critical philosophy in response to eighteenth-century fears of book addiction, or the automation of decision in those who delegate thinking to their reading material.[7] For reasons of space, here we shall focus on Plato, situating him at the heart of an addiction epidemic in fifth-century Athens; one that coincides with the technological revolution of alphabetic writing. The comparison of then and now, two periods of technological change bringing political turmoil, throws up multiple parallels with the ongoing transformations of digital culture. Recent diagnoses of disordered internet consumption correspond to a softening of earlier, more hardline definitions of addiction as a disease, in favour of recognising addiction as a product of the neuroplastic brain being continually reshaped by its environments. The discovery that we can be addicted to more or less anything is anticipated in Plato's depictions of Athens during a period when the traditional institutions of oral culture were proving increasingly unable to contain the moral-political disruption unleashed by the concretisation of Athenian society around writing. An encounter with the intoxicating automations of writing becomes his point of departure for seeing the same effects of pathological consumption throughout the anxiety-ridden, degenerating culture of the *polis*. Echoing the Twitter mobs of the digital era, writing occasioned demagoguery and trigger happy ostracisms. And its transformations fed into the simultaneous decline and growing significance of the *symposium*, or drinking party, explored in Plato's text of the same name. The parties functioned as sanctuaries where aristocrats, displaced from their traditional position at the heart of an increasingly chaotic

city, retreated to experiment with religious, poetic and pharmaceutical oblivion. They accordingly bring to mind both the anxiety-relieving 'zones' of escape and disavowal sought out by addicts in using, and the internet echo chambers into which we retreat from an increasingly fragmented public sphere, riven by incommensurable, toxic and intoxicating discourses on the concupiscent behaviours of our designated enemies. In a move that hints at an exit strategy for our own period of generalised addiction, Plato builds on the logical thinking made possible by the new technology of writing to reinvent and readjust a dislocated political morality.

The norms of addiction

Not all addictions are deemed pathological, and some are not even recognised as addictions per se. The well-established contrast between caffeine and tetrahydrocannabinol (THC) illustrates the relativism at work in pathologisation. Medical evidence is by no means clear that the former is less damaging to health than more illicit narcotics,[8] but it is a major global commodity underpinning what remains of the post-consumerist high streets of late 24/7 capitalism. While marijuana is stereotyped as an indolence-inducing somnolescent, coffee is a stimulatory precondition, a pharmacological *sine qua non*, for adaptation to the long hours of the sleep-deprived twenty-first-century worker. We know that the neurobiology of love, characterised by craving, the narrowing of attention around the beloved, and violent sickness in the event of deprivation, is essentially identical to that of addiction. The term even used to be applied favourably as an expression of devout Christianity,[9] before its positive connotations became lost in the passage from the seventeenth to the twenty-first century, via prohibition and the 'War Against Drugs'. Despite neuro-, psycho- and sociological evidence of debilitating attachment to our digital devices,[10] there is considerable reluctance to classify their behavioural automation as amounting to anything more than an unhelpfully hyperbolic 'metaphor' that falls short of the 'strict clinical threshold for addiction'.[11] But these contestations exaggerate the stringency at work in medical diagnoses, which habitually more or less re-project the social norms and schemata of acceptability. The long-standing 'disease model' of addiction has monopolised images of dissolute crackheads at 'rock bottom', the ten percent or so of addicts who never go through 'spontaneous remission', their supposedly fixed brain chemistry having been irreparably 'hijacked' by the drug's intrinsically addictogenic properties. But critical discussion has since moved from a focus on an explosive interaction between the 'healthy' reward ('dopamine') system and its corruption by a specific subset of pharmaceuticals, to the ecology of consumption and the organism's ongoing adaptations to its environment.[12] The emergence of evidence for behavioural phenomena like compulsive consumption of exercise, the internet, video games and gambling has gone hand-in-hand with a loosening of etiological criteria – to the point where some critics have argued for 'evacuating the concept of addiction, once and for all', because of a 'conceptual landscape so rubbled and defeatured' by politicisation as to render impossible any 'analytically usable language of habit'.[13] The *Diagnostic of Statistical Medicine* has accordingly tended to opt for the more deflationary language of 'substance use and behavioural disorders', though has recently returned to preferring the less ambiguous 'addiction', now understood as existing along a continuum of severity.[14] Aversion to the term stems, in part, from the fear that it can be used to stigmatise and exclude, while also immunising those with more socially acceptable bad habits from being tarred with the same brush. The changing climate of diagnosis, however, means that we can see

addiction as more prevalent than has hitherto been assumed, and only really recognised as problematic when practices of consumption no longer cohere with social norms that legitimate it.

Perhaps the most decisive influence on the reordering of addiction research is Bruce K. Alexander's theory of 'psychosocial dislocation', which presents addiction as a 'rational', 'adaptive' response to community disintegration.[15] The idea began life with Alexander's infamous 'Rat Park' experiments of the 1970s, which criticised earlier claims about the intrinsic addictiveness of opioids by demonstrating that laboratory rats' impulse to consume drops markedly when they are given the freedom to construct for themselves the environments in which drugs are offered up for consumption.[16] Seemingly toxic levels of abuse, Alexander concluded, are not inherently pathological, but the lesser of two evils, namely coping mechanisms for dealing with the constrictions of a traumatic environment. As a short-term strategy of adaptation, they become particularly prevalent in socially fragmented societies.[17] The idea of addiction as an adaptive strategy has since been echoed by contemporary neuroscience, which tells us that dopamine is a crucial component in the neuroplasticity that enables the brain to adapt itself around the dominant sensory cues of an environment. Experiential learning proceeds because we crave the repetition of actions that hitherto yielded stimulatory reward. The neuroreceptor causes us to 'automatise behaviour'[18] in learned response to familiar patterns and the repetition of more or less any intense experience can bring about a reorganisation of the brain's synaptic circuitry. Addiction occurs as a side-effect of the ongoing process of reorganisation, taking hold by way of a technically 'positive', but in practice deleterious, feedback loop that sets in when desensitisation combines with neuronal pruning to make attention narrow ever more tightly around a limited bandwidth of environmental stimulation.[19] This kind of 'attentional narrowing' becomes particularly acute in environments that offer little in the way of alternative to the high provided by a given intoxicant. And it is why the circumstances that push us to consume in the first place become a key differential factor in addictogenesis. Industrial automation comes high up the list of background causes, on one hand through the destruction of jobs and whole communities, identified as a significant factor in America's ongoing 'pain epidemic'; on the other, through the automation-induced debasement of once-meaningful work into traumatically boring 'bullshit jobs'.[20] The reliance on impossible target-setting to keep precarious workers motivated pushes them to search for stimulation and anxiolysis elsewhere. Research is establishing a clear link between rising levels of addiction and an ecology of labour that occasions multiple causes and symptoms of stress, from the paralysis of social mobility to phenomena like 'white morbidity', the rising mortality of median-income, middle-class workers.[21]

Addictogenic societies

For Alexander, capitalism's inability to integrate those it pushes to the margins of society is the cause of a widespread epidemic of addiction, which manifests in the pathological abuse of everything from conventional drugs to digital technology, food and sport. His argument brings to mind Wolfgang Streeck's description of the fourfold technique of 'coping, hoping, doping and shopping' as one of the few remaining strategies for surviving the entropic degradation of the capitalistic social order.[22] A more developed variation on the same idea is found in Bernard Stiegler's account of the 'generalised addiction' created by consumer capitalism, which the philosopher attributes to the systematic industrial exploitation of the libidinal energies of

proletarianised consumers, already running on empty and increasingly dependent on pharmacological support to facilitate adaptation to the relentless demands of contemporary living.[23] A key strand of Stiegler's argument revolves around the idea that capitalism's fetishisation of consumption has brought about something of a reversal in the social organisation of technology, which shifts from curbing the toxicity of technologies to bringing their exploitable intoxicating, addictogenic, potential to the fore. The third strand of Stiegler's theory of 'general organology' articulates the organisation of society around rules and institutional norms that govern our adoption of technology *qua* 'pharmakon', meaning both cure and poison.[24] These rules are internalised as the rituals and habits that regulate our consumption, their traditional function being to mitigate the negative effects of a given technology while facilitating the spread of its positive dimension. But the order they create is normative, fragile and undone by the society-wide creation of new technological habits, for which regulatory norms have yet to be established. Technological change invalidates the existing regulatory norms of adoption, leading to spikes in consumption, which are made all the more acute by the technological dislocation and marginalisation of groups within society. Unversed in the ways of the new technical system, the marginalised may well lack the knowledge and techniques required to limit their use of *pharmaka*. Goaded to consume by industries charged with selling quick-fix technological cures to all manner of social ills, they may equally have little interest in doing so. Intoxication in all its forms provides an anxiolytic escape route from the traumas of social upheaval – and one whose seductions will only subside with society's readjustment to technological change. Indeed, Stiegler questions whether the function of the economics of 'disruption' isn't precisely to prevent the political organisation of society from catching up with accelerating technological disadjustment, so as to maintain consumers in a state of 'proletarianised' dependency, their '*ways of living* replaced by automatism and addiction'.[25]

Writing in its aftermath, Franco Berardi suggested that the financial crisis of 2007-8 was a product of 'the systematic use of euphoria-inducing drugs, including neuro-programming substances' like cocaine and prozac.[26] On one level, the outcome was an injection of 'hyper-excitation', short-termist thrill-seeking and, ultimately, depressive lows into the heart of the global markets. We can also imagine that impulsification served to automate the decisions of traders, allowing them to keep apace with the ever accelerating speeds of automated trading, while simultaneously alleviating the anxiety occasioned by responsibility for the vast sums traded. One wonders if we should similarly connect another aspect of the prevailing addiction epidemic to recent political disruptions of the digital age. If the affair of Cambridge Analytica tells us anything, it is that contemporary politics has yet to develop mechanisms for reorganising, or 'readjusting', the *polis* around the disruptive technologies that expose as inadequate the regulatory norms of the pre-digital social order. Is fake news not symptomatic of a public hooked on media consumption, where the short-term buzz-value of digital stimulus outweighs the therapeutic value of truth? Mounting concerns over screen and media intoxication are notable for coinciding with the resurgence of extremist politics and the breakdown of a communicational model in which the media worked to expand the human sensorium, challenge confirmation bias and create a public common ground of shared experience around which consensus can be formed. The suspected manipulation of voting in both the US presidential elections and the UK's referendum on Brexit was made possible by dopamining techniques like clickbaiting and sponsored newsfeeds offering variable dosage hits to feed media junkies a diet of (psychographically tailored) pornographic sensationalism, which short-circuit rational deliberation and automate consumers' thought. As

evidence of what Natasha Dow Schüll calls 'addiction by design', these techniques work by tapping into an anxious, stressed, bored, and underemployed user-base looking online to find both stimulation and escapist retreat. One of Schüll's gambling-addict interlocutors describes the space of this withdrawal as the 'machine zone where nothing else matters': 'It's like being in the eye of a storm ... Your vision is clear on the machine in front of you but the whole world is spinning around you, and you can't really hear anything. You aren't really there – you're with the machine and that's all you're with'.[27] The description should be familiar to anyone who zones out and stares blankly at a screen, loses oneself in a social media black hole, or in self-reinforcing echo chambers of righteous indignation, salving one's wounds with the therapeutic value of being right. Away from the frustrations of the world outside, the indulgence and reinforcement of consumers' pre-existing opinions offers a kind of anxiolytic oblivion. Blocking out the chaos of one's surroundings by surrendering to the automation of affect, paradoxically, becomes a way of retaining some minimal sense of agency in periods of disadjustment. These periods are historically symptomatised in what, with hindsight, we might begin to recognise as addiction epidemics, coinciding with changes in the technical system of a society.

Insofar as capitalism consists in constant technological change, we can arguably read its entire history in terms of waves of addiction. The capitalist era was borne of mass cravings for sugar and spice in the early modern period, before passing through books – most notably novels – and alcohol with the Enlightenment and industrialisation period, then opium and tobacco, as physical labour gave way to deskbound bureaucracy and consumerism.[28] What marks out the present would, above all, be producers' enhanced knowledge of how to hack and automate the nervous system by manufacturing addiction, channelling the search for anxiolytic relief into addictogenic products conceived and marketed for that purpose. Stiegler would add that this kind of dopamining also coincides with our decreasing ability to harness disruptive technologies in the combat against psychosocial dislocation: technological automation locks us out from refunctionalising tools for purposes of life-building not envisaged in their deliberately restrictive design. But we also find addiction epidemics safely outside the history of capitalism. It is now argued both that religious experience strongly implicates the same neural (dopaminergic) pathways as more established addictogens,[29] and that detrimentally rigid, obsessional, adhesion to religious practices should be diagnosed as a behavioural addiction.[30] A history of the pathological retreat into zones of oblivion relating to the reorganisation of society around religious social technologies is surely there to be written. Other epidemics suggest that the socially disruptive technology need not necessarily be the principal object of addiction. Writing in *The Globalization of Addiction* (2008), Alexander proposes that ancient Athens was undergoing an addiction epidemic at the time of Socrates, as the city struggled to deal with the anomic fallout of the Peloponnesian Wars. Evidence for the epidemic is suggested by the Socratic-Platonic obsession with weakness of the will. 'By the end of the *Republic*', Alexander argues, 'Socrates has provided a picture of society that is plagued with universal addiction', indistinguishable from the social breakdown that coincides with decimation by war and the ensuing descent towards tyranny.[31] The entire Socratic philosophical project should accordingly be seen as a response to this spate of addiction, advocating systems of government and education adequate to cultivate balance between the 'appetitive' and 'rational' parts of the soul. Others have made similar claims and, albeit incidentally, even repeated the juxtaposition of addiction crises in Athens and the present.

One of these is Alain Badiou, in his self-styled 'hyper-translation' of Plato's *Republic*, undertaken to reassert the work's contemporaneity. Badiou updates the Platonic language of 'appetite' and 'enslavement' to the 'tyranny' of the passions with references to 'pathological 'impulses and addictions' that 'derive either from the body or from pathological changes in the psyche'.[32] His reworking of the iconic myth of the cave around the image of a giant 'cosmic movie theatre' also identifies technology – albeit a somewhat outdated vision of it – as the cause of our entrapment in a world of shadows and simulacra. Plato's cave-dwellers are recast as audience members 'chained to their seats, with their eyes staring at the screen and their heads held in place by rigid headphones covering their ears'.[33] Our screens, of course, now tend to be much smaller, less physically cosmic than handheld and nomadic. The algorithmic machinations of psychographic profilers mean we need not even be watching the same film. And the readiness with which we offer ourselves up for technological self-stimulation, with little need for coercion, indicates that Badiou's wording of shackling only *half*-captures what is at stake in the compromised voluntarism of our toxic media consumption. But the ubiquity of screen mediation still suggests that Badiou's metaphor is scarcely metaphorical anymore.

Less speculatively, Alexander's reading of Athens also finds support in a work by Michael A. Rinella, whose *Pharmakon: Plato, Drug Culture, and Identity in Ancient Athens* (2010) posits that an animus against the 'frenzy' of intoxication is the organising principle of a philosophical endeavour that responds to the changing landscape of Athenian religion, pharmaceutical experimentation, and the chaotic social milieu in which Socrates lived.[34] Rinella's focus on the excesses of sympotic culture also enables us to go beyond Alexander, situating the epidemic not simply in relation to the fallout of war, but as part of a larger-scale revolution in writing and literacy that was transforming all aspects the organisation of Athenian society. Set amidst wide-scale technical disadjustment and the eroding authority of the moral and social norms of oral culture, Plato's dialogues converge around a critique of the relationship between tyranny and intoxication in all its forms, from alcohol to poetry, music and political rhetoric; there's even a celebrity forerunner to the likes of Trump and Johnson, in the form of the disgraced general in-waiting, Alcibiades. All are deemed inferior to an alternative ecstatic experience of truth, namely philosophy, which we can accordingly read as a discipline for what Stiegler terms 'disautomation'.

Drunk on words

Drawing on early research into neuroplasticity and the ability of culture to organise function-shifts in the brain, Julian Jaynes speculated of the first (Bronze-Age) writing revolution that it coincided with the breakdown of the 'bicameral mind'. The volitions of the brain's right hemisphere had, up to this point, manifested as audio-hallucinations experienced as the commanding voices of the gods. The externalisation of these commands into written orders dimmed the voices, bringing them under the internal narrative of a now self-conscious subject.[35] Greece subsequently regressed to orality, but began to regain literacy in the Homeric era. Athens underwent a sustained acceleration in its transition to literate culture over the second half of the fifth century, before the city reinvented its organisational norms around 'full alphabetic dependency ... in the first decades of the fourth century'.[36] Several groundbreaking works in the anthropology of technology and media studies, most notably by Jack Goody, Eric Havelock and Jean-Pierre Vernant, have identified this period with the beginnings of the philosophical revolution in Greek thought. They

argue that writing served as a vehicle for an abstract, rational, mode of thought and capacity for critical distance that would have been much harder to come by under the memorably seductive styles of oral poetry. Writing, in this sense, made for a soul experienced as autonomous from the passions that had hitherto governed it.[37] If so, it might equally have brought to the fore that mental state most seemingly antithetical to philosophical detachment. Havelock's student, Marshall McLuhan, questions whether the feeling of dependence we shall see that Plato identifies with writing, might have been unavailable to sensorium formed only by oral culture. The Socratic 'division of the faculties' into reason and appetite may have been inspired by an Attic culture polarised around two extremes of the austere, disciplined ascesis of the military and the frenzied, mystical hubris of the displaced aristocracy.[38] But it is equally made possible by what McLuhan terms the 'technological dilation' of experience into the written, creating a split between what is read and what is felt, which places a conflictual divide between reason and appetite at the heart of both the subject and society.[39] Recent research on the Neanderthal origins of a gene linked to higher rates of addiction indicates that the potential for affliction may be older than anatomically modern humans,[40] while the modern, medicalised concept of addiction emerges only over the course of the eighteenth and nineteenth centuries and did not become common until the twentieth. But McLuhan's observation raises the intriguing prospect that it may only have been emerging as a phenomenologically distinct experience at around the time of Socrates. A confluence of factors including war, several bouts of plague, and society undergoing dramatic technological reorganisation, would have contributed to increasingly visible symptoms of psychosocial dislocation and disadjustment.

Plato certainly interweaves the discussion of writing with what we can recognise as addiction. Much toner has been spent on the explicit and well-rehearsed discussions of writing in the *Phaedrus* (c.370 BCE), but little heed has been paid to how his analysis grows out of what might best be described as a staging of writing's addictogenic potential. Anticipating Immanuel Kant's later critique of the delegation of thought to books,[41] and in a parallel that is frequently evoked by technosceptics nostalgic for the end-stage-Holocene art of remembering maps and phone numbers, Plato uses the dialogue to criticise the state of naive trust and dependence induced by the art of letters. We see Socrates ventriloquise Thamus, the ancient king of Egypt for whom the externalisation of memory into written material 'will introduce forgetfulness into the soul'. Famously, writing is described as a 'pharmakon', in the sense of being both therapeutic and harmful; he goes on to suggest that it is less a tool for truth than a 'vulgar amusement', comparable to what one finds at 'drinking parties' (275a-276e).[42] Less remarked upon is how Plato's arrival at this assessment passes through a vision of the pharmakon being liable to induce 'frenzy' and even death.

The *Phaedrus* begins with Socrates accosting the text's title character as he makes his way beyond the walls of the city. He accuses Phaedrus of smuggling in his cloak what transpires to be 'the leaves of a book containing a speech' by the orator Lysias (228d-230e), which he is sneaking off to gorge on in private, away from censorious, suspecting gaze of Athens's elders. The legendarily agorapetal Socrates follows him into the countryside, claiming that the book acts as a 'potion [φάρμακον] to charm me into leaving' (230d). When Phaedrus agrees to read it aloud, the philosopher embarks on a florid meditation on the ecstatic, 'Bacchic frenzy' into which he roused by its intoxications (234d). He proceeds to theorise the kind of love that is a sickness, brought about by the loss of 'self-control', which ensues when 'desire takes command in us and

drags us without reason towards pleasure' (238a). The problem, he diagnoses, is an anharmonious relationship between the different parts of the soul, which means that the 'surrender to pleasure … without a trace of fear or shame' can be triggered by any number of seductive perturbations (250e-251a), including physical bodies, text, poetry and music. The final pages of the dialogue set out a blueprint for what amounts to philosophy as a form of addiction therapy, where the philosopher – to borrow a phrase from Bernard Stiegler – would be one who 'disautomates' habit, resisting the seductions of taking something as read, of having the written text automate the thinking process (278a-e).[43] In line with some twenty-first-century critiques of abstinence-based addiction therapy,[44] Socrates withholds from prescribing abstention as the solution to dependence. Recognising the implausibility of reversion to some equivalent of pre-digital society, contemporary therapeutic techniques advocate the mitigation of the colonisation and narrowing of our synaptic circuitry by digitally-elicited dopamine release. The key to therapy is to 'reinforce alternatives', by limiting screen-time and broadening our exposure to countervailing, including intellectual, stimuli.[45] Socrates-Plato takes an analogous route in looking to strengthen the faculty of reason, cultivating rational self-discipline as a technique for overriding the power of appetitive craving. Their preferred option is to set out conditions in which the curative dimension of the pharmakon can flourish, by restricting its role to that of an instrument for living in the service of truth. Writing opens up the prospect of a detached rationality because it sets up a gap between the eye and the page. The new technology itself provides the basis for new curative norms through which readers could adjust to living in the written world. Judging by the *Phaedrus*'s passage from book dependency to the pathological habituations and pursuit of ecstasy that we can identify with the twilight of disadjusted, alphabetising, oral society, the reflexive mode of thought that writing institutes moreover awakens Socrates to a retreat into addiction spreading throughout Athens of the day – and also offers the antidote to it.

Hitherto neglected, despite considerable attentions paid to the transformation of subjectivity by writing, we can identify a fracturing of the Athenian public sphere and withdrawal of its members into anxiolytic oblivion as, at least in part, social and political consequences of the reorganisation of society by writing. Alphabetisation affected all aspects of society, from democracy and foreign policy, to the structures of social class and religion. The rise of an emboldened, jingoistic *demos* saw the once dominant aristocracy drift from the public sphere of politics into a private life of mysticism and intoxication. Despite the toxicity that writing brings with it, Plato envisages the disciplined, philosophical thinking that it makes possible as a 'cure' (φάρμακον, *Republic*, 595b) and written laws as 'antidotes' (ἀλεξιφάρμακα) to the moral ill health of the *polis* (*Laws*, 959d-e).

The drone in the zone

The roots of Athenian democracy originate with Solon, who, amidst the decline of archaic Athens in the sixth century, harnessed the adoption of the then new technology of a written constitution to reinvent citizenship around equality before the law. The next phase in the intertwined history of democracy and writing enters into play under Cleisthenes, whose system of ostracism allowed citizens to stave off tyranny by etching the names of potential threats to the polis into shards of pottery. In the face of doubts raised about how far these changes entailed extensive, literacy among anyone but elites and lobbyists,[46] the latest findings indicate that, over the course of the

fifth century, fluency in reading and writing became a prerequisite of citizens' ability to execute the official functions they were allocated by lot.[47] Writing thus served as a fundamental instrument for the exercise of democracy, and the adoption of the technology by the *demos* proved mutually reinforcing for both, ensuring the spread of literacy across the citizenship. When, at the end of the century, a series of aristocratic coups had left the city on the brink of collapse, it was also writing that came to its rescue. The revival and reinstitution of the *demos* in 403 BCE consisted, above all, in the transcription of the law onto stone tablets, which by preventing appeal to conveniently unwritten laws of oral culture, provided a basis for halting what Plato described as the increasingly 'drunken' behaviours of the Athenian citizenship.

Much as its facilitation of bookkeeping had made for spectacular growth in trade, however, alphabetic disadjustment was also playing a part in the city's decline, not least by ushering into power a mass of citizens all too vulnerable to the poetic seductions of political rhetoric. The practice of sophistry had the same effect on the *demos* as spin and fake news in our present age of digital disadjustment, whipping up the masses into a trigger-happy ochlocracy, only too happy to dispense mob justice on both fellow citizens – expelling enemies from the city through votes cast by carving names into potsherds – and the rest of the Aegean and Mediterranean. The intertwining of popular literacy and democracy also fed into the marginalisation of the aristocracy. Denied their traditional place in the 'natural order', which is to say, at the heart of government and, by extension, on the battlefield, the aristocrats stood back from an increasingly fragmented public sphere and took refuge in private members clubs, the *hetaireiai*, arguably more akin to gangs of disaffected youths,[48] and renowned for their drinking parties, the *symposia*.[49] Where they had struggled with the increased publicity of justice and laws, which meant power, once mystical and hidden, was now in full view of the city, these parties offered a place to regain a sense of mystery and relive the 'frenzied' behaviours of their obsolete marshal style,[50] via ecstatic rituals of intoxication. We can imagine that the scale of social-technical change, compounded by the ongoing devastations of wars against Sparta, set Athens in a state of considerable anxiety. The clubs functioned as respite, offering oblivion and the degree zero of an alternative to the conflict of the *demos*. They offered a route, perhaps, to the machine zones of their day.

What we are here interpreting as Plato's commentaries on a city in the grip of addiction home in on the *demos* and the *symposia*. Both receive the diagnosis of weakness of the will, or 'akrasia', referring to a form of self-enslavement occasioned by the surrender of agency to the baser drives of the soul. Outlined most fully in the *Republic*, written around 380-360 BCE, this diagnosis recurs throughout Plato's work and pits subservience to corporeal 'appetite' and the pursuit of pleasure against the rational emancipations of philosophy. His tripartite theory of the soul revolves around the opposition between a 'rational', calculating part (λογιστικὸν) and the 'desiring', 'appetitive' part (ἐπιθυμητικόν). There is also a third, 'spirited', or immunological component (θυμοειδές), which, in the just body at least, sides with reason in raging against disorder (439a-441b). Thumotic spirit is also what means that we cannot simply do without desire and the stimulations to which appetite can succumb. The colourlessness of wholesale abstention is no basis for learning and should not be confused with moderation of the appetites. Plato aligns each part of the soul with one of three – 'money-making, auxiliary, and deliberative' – classes of the city (441a), and identifies the art of individual self-mastery with that of governing the many. For the health of the city to flourish, spirit and, above all, desire, must be subordinate to the rational wisdom of philosopher-kings and the requisite training in good noetic order. Such vitality is not to

be found in democracy, whose 'general permissiveness' and 'utmost freedom' to define the good in accordance with the whims of its citizens inevitably gives way to the 'most severe and cruel slavery' of tyranny (563e-564a). Having earlier cautioned against the perils of 'intoxication' (μέθη, 403e), Plato brings his interlocutor, Glaucon, to agree that democracy is the constitution most susceptible to it; most liable to creating the tyrannical men who live enslaved to their appetites. Indeed, the result of the rule of the mob is that the city itself gets drunk, with perilous consequences. 'When a democratic city, athirst for freedom, happens to get bad cupbearers for its leaders, ... it gets drunk by drinking more than it should of the unmixed [ie., undiluted] wine of freedom' (562c-d). As the *demos* sinks ever further into disorder, 'bought slaves ... are no less free than those who bought them' (563b).

Emblematic of democratic cravenness is Plato's figure of the 'drone', a parasitic citizen who eats up resources while contributing nothing to the functioning and vitality of the city (552c, 564e-565c). The metaphor is apian, rather than technological, derived from the stingless bees that consume honey while neither pollinating nor participating in the production of honey. But the contemporary resonance of drone as automaton is also fitting. Rana Saadi Liebert has shown that the identification of poetry and bees originates in archaic Greece's oral tradition, which makes frequent reference to 'bee-poets producing "honeyed hymns"' through which to entice the listener. The major shift initiated by Plato is to 'pervert' this 'traditional self-presentation', turning 'poetic tradition against itself' by reconfiguring the bee as a 'social parasite' and 'sweetness in all its forms as a toxin inimical to a healthy state', 'addictive' and 'corrosive' in equal measure.[51] The metaphor recurs throughout the Platonic dialogues, which also deepen the entanglement of poetry, democracy and intoxication. The apian 'drones' of the *Republic* become the 'cicadas' of the roughly contemporaneous *Phaedrus*, which offers a notoriously vivid account of people who became so entranced with the delights of song – so enslaved to the 'pleasures of the body' – that they stopped eating and drinking and eventually died (258e-259c). There is no reason to think these types were confined to the public sphere. On the contrary, drunkenness flourishes in the very recesses into which Athenians retreated from the *demos*. Throwing light on the growing drinking culture of ancient Athens in the twilight of its golden age, the earlier *Protagoras* (pre-387 BCE) casts poetry and alcohol together as two sides of the same coin. The former is described as a feature of 'the second-rate drinking parties of the agora crowd', who, 'unable to entertain themselves' with the quality of their conversation, recourse to paying for 'flute-girls', music and dancing (347c-d). The parties in question are the symposia, analysed in depth in Plato's dialogue of the same name. Traditionally, these clubs had been sanctuaries of decorum, bastions of constraint where men learned the art of disciplined consumption and self-control, forcibly removed from the intoxications of democracy. Symposiasts are sometimes still read as lovers of self-discipline, charged with running educational institutions for the breeding of gentlemen, pushed to act against the oblivion of democratic unreason.[52] But that view fails to consider how the symposia degenerated over the course of the fifth century. As democracy loomed on the horizon, their old oral-cultural educational role of preparing young aristocrats for future political and military rule was usurped by the emergence of schools teaching literacy, rendering them functionally obsolete. Jan Bremmer traces a dramatic generational change to the symposia that overlaps with the depoliticisation of the aristocracy. In evidence of what has elsewhere been described as an 'intergenerational conflict' that peaked around 415 BCE,[53] older symposiasts were edged out by a younger crowd, less respectful and often mocking of the restraint of the outdated moral order of

the oral-poetic tradition. The parties became increasingly detached from their pedagogical and military roots in shared communal meals, and more obsessed with youth, beauty and the pursuit of ecstatic oblivion.[54] Hence Plato's concerns with the entrancing intertwinement of poetry, music and alcohol. The combination of the three also appears to reference a form of cultic religious practice pertaining to the Eleusinian Mysteries, which was taking hold in Athens, albeit illicitly, on the secluded periphery of the *polis*. Initiation into the highly secretive mysteries involved a 'rapturous' vision of 'collective terror and then collective relief', a combination of intoxication, theatrical trickery, and possibly also sex, giving rise to an ecstatic experience of divinity.[55] Initiates were sworn to secrecy on pain of death, but evidence suggests that, 'in yet another aristocratic affront to democracy's social norms',[56] the sacred rituals were being performed for entertainment at private parties, where symposiasts broke religious taboos governing the strict regulation of who could prepare ecstacy-inducing intoxicants in pursuit of new intensities of delirium. An informer, Andocides, named two men who feature in Plato's *Symposium* (c.385-370 BCE), as principal culprits deemed guilty of this profanation: Erixymachus and, above all, Alcibiades, the celebrity general and adopted son of Pericles.[57]

Plato's critique of the symposiasts' surrender to automation of the nervous system is on view not only in his descriptions of their weak-willed, behaviour, but also in his formulation of philosophy as the route to a kind of rational-spiritual ecstasy, to be encountered in the self-discipline that coincides with the right kind of non-appetitive love. It further comes across in his contrasting depiction of Socrates and Alcibiades in the *Symposium*. As lovers, the two men's fate was inextricably intertwined; the philosopher's tutelage of the soldier was at the heart of the former's prosecution for 'corrupting youth' and disrespecting the gods that culminated in his death by hemlock in 399 BCE. Here, however, Plato defends his friend and master with a stark illustration of the contrast between Socratic self-discipline and Alcibiades' hubris. Alcibiades is presented as libidinal and outrageously drunk, arriving late to the party with a gaggle of prostitutes before lamenting the chastity of Socrates, who refuses all sexual advances and never succumbs to intoxication (212d-214a, 219c). Within a year of the dialogue's setting – widely agreed to be in 416 BCE, just prior to the failed Athenian conquest of Sicily, and the scandalous 'mutilation of the herms' that immediately preceded it – the general would be summoned to stand trial not just for profanation, but for actions indicating short-termist compulsivity. In 415 BCE, Alcibiades had lobbied a triumphalist and somewhat bloodthirsty *demos*, keen to export the glories of Athenian civilisation, to launch – and have him lead – the ultimately catastrophic expedition to Syracuse. He subsequently had a change of heart and, it is suspected, became involved in the mutilation of Athens's 'herms' in a bid to cast ill omens over the campaign.

Evoking Hermes, the herm statues delimited the threshold between public and private right throughout the Athenian *agora*.[58] When their faces were damaged and beards 'trimmed', in the words of Thucydides,[59] the desecration shook Athens to its very core – and became the point at which, to bastardise Streeck, 'doping' and (religious) 'hoping' were no longer matched by 'coping'. The act is sometimes described as one of debauched vandalism, but its scale – and the aggression of so clearly taking aim at the institutions of civil religion – suggested a carefully orchestrated threat to the stability of the city. Others interpret the act as a comment on the descent into folly of democracy, symptomatised in burnings of unpopular books[60] and the growing hastiness, including on the part of Alcibiades, to ostracise opponents through shameless rabble-

rousing. The docked beards, on this reading, testify to the infantile behaviour of the *demos*, with childlikeness identified at the time as a characteristic of the chronic drunk.[61] A drunken escapade or not, suspicion of guilt over the mutilation fell on the same men: a pragmatic, albeit counterintuitive, combination of the opportunistic, attention-seeking, general and disillusioned, displaced and often 'nihilistic' *heteratai*, including the aforementioned Erixymachus and Phaedrus (also present in the *Symposium*). The latter were part of an organised aristocratic faction that preached maximal self-restraint and defined itself in opposition to the 'undisciplined decadence' of sympotic culture and the *demos*.[62] Their dramatic intervention, perhaps, sought to shake Athens out of its disavowed stupor; to collapse the points of passage between the *polis* and anxiolytic retreat. The implication of Alcibiades, however, merely emphasises the futurelessness of the city's foreshortened attention, narrowed to focus only on the next high. He embodied the appetitiveness that Socrates-Plato equated with tyranny and, four years later, after a period of exile and extensive collusion with Athens's enemies, Sparta and Persia, he helped overthrow the *demos* in a bid to avoid trial.

Mainlining the mainstream media

From the trumping of third terms to prorogations of parliament, all set against an evidentially compelling backdrop of Russian interference in Western elections, the language of 'coups' has become more frequent of late. In the US and UK, at least, we are still, at the time of writing, yet to see the scale of violence that has typically preceded historical overthrows of democracy[63] – but, in our general climate of acceleration, the fear is that it might not take long to make up the ground. One suggestion is that it is already here: we are 'in a situation of quasi-war, albeit with very different forms of violence' – economic, cyber and cultural warfare –, which have eroded the binary separation of war and peace that defined modern history.[64] And 'quasi-war' is spreading because of technological disadjustment, to wit, the inability of social and political institutions dating from the age of the book to contain the extremes of feeling, the breakdown of trust, manufactured by digital consumerism. Writing in *Nervous States: How Feeling Took Over the World*, William Davis notes that the democracies of the nineteenth and twentieth centuries were made possible by phenomenotechnologies for the sharing of experience developed alongside the birth of capitalism. We can trace the ancient Athenian *demos* to the written language first adopted by Greek traders, and the same is broadly true of its Enlightenment re-emergence. The presumption of objectivity crucial to the growth of rational debate, and embodied in both the newspaper journalism and science of the era, originated in the use of double-entry accounting ledgers to present verifiable facts for scrutiny and analysis. 'The ability of merchants to interact peacefully and reliably (often with complete strangers) was a testimony to the power of bookkeeping techniques' to separate out important information from the character traits of its authors. Similar 'mechanisms for separating an argument from the persons making it were crucial' to the creation of trust and authority in reporting, and to the acceptance of results produced by the experimental methods of science.[65] Printed publications allowed for dispassionate reporting, creating the basis for consensus over a fabric of commensurable experience – a 'common *aisthesis*' in the language of Jacques Rancière[66] – , around which to organise the coffee-house discussions of the emerging public sphere. Just as the direct democracy of Athens depended on oral-cultural norms being able to uphold the sobriety of debate, so the functioning of representative democracy depends on the

capacity of these institutions to expose arguments to the mediation of alternative perspectives and thereby 'filter', 'frustrate' and 'correct' the cognitive biases that 'lead us to value immediate gratification over future benefits'. They are also supplemented, in this respect, by social technologies, including bicameral legislatures and independent judiciaries, intended to 'have a "cooling" effect on popular passions'.[67]

Insofar as they are 'designed to be addictive', to cultivate impulsivity,[68] and make us 'sad',[69] the technologies of digital social media, by contrast, erode, rather than build, the bases of shared experience around which trust develops. It was in the context of using the nascent technologies of paper media to create a public that the rise of the novel became doubly dangerous. Writers from Cervantes to Laclos, Flaubert and beyond, both reassured and mocked the anxieties elicited by addicted readers' withdrawal from public space and into the private zones of seductive romance fiction. But what was then the perceived exception of reading running counter to an aesthetic common ground, has since become the norm. One recent work on the 'attention industry' traces the modern history of attention-capture to the 1830s, when, instead of using adverts to subsidise journalism, a new breed of press baron sensationalised and often outright fabricated content as a means to sell advertising. The pitching of stories at 'the audience's baser instincts', at our '"automatic" as opposed to our "controlled" attention',[70] triggered a race to the bottom that has reached its apogee with digital technology's multiplication of televisual and social media channels, which compete for an increasingly small share of advertising spoils while pitching to ever more fragmented customer bases. One result is that even truth, as Boris Groys has remarked, becomes an object of consumerist taste, deemed palatable to the extent that it validates our manufactured preferences.[71] The process of attention-capture consists, on one hand, in the generation of anxiety, produced through the dramatisation employed to drown out competing sources of stimulus; and, on the other, in the common *aisthesis* giving way to the incommensurable worlds set in place by filter bubbles that tailor representation to fit with the profiles and biases of specific target audiences. In this double movement of dopamining, the creation of stressful, dislocating environments is coupled with the marketing of technological fixes, to be consumed without restraint as a means of perverse retreat from the chaos of the outside, 'real', world. This leads, in turn, to our Balkanisation by algorithms engineered to keep newsfeeds free from the buzz-harshing encounters liable to disincentivise habitual returns to, and thereby counteract the narrowing of attention around, the object of consumption.

Much like the gambling terminals analysed by Natasha Dow Schüll, these online safe spaces nonetheless make for decidedly ambiguous sanctuaries. One of the long-standing tropes of the vicious circularity of addiction is that the curative and toxic aspects of the *pharmakon* become increasingly inseparable in their intertwinement. Whatever the broader ecological causes of smoking, the addicted smoker ends up smoking more to combat the anxieties and withdrawal effects elicited by smoking. The same logic is at work in the encapsulating machine zones of the internet, where, from 'climate porn' to political collapse,[72] we find therapy in gorging to the point of displeasure on the very stories that do most to raise our anxiety levels. It is along these lines that we should read a *New York Times* opinion piece, from May 2018, decrying liberals' 'Addiction to Trump'.[73] Insatiable craving for news of the forty-sixth president's latest scandals, the author argued, has seen his opponents retreat into echo chambers of self-indulgent *jouissance*, celebrating his monstrosity at the cost of short-circuiting politics, failing to deal with the broader consequences and policy issues of his election. It would be easy to dismiss the claim as a

politicised metaphor, not least because the diagnosis would presumably meet with the approval of Trump's dreaded 'core'. Like the resurgent Flat Earth movement, the latter vaunt themselves as super-scientific pursuers of truth beyond appearance, harnessing the disautomation and critical distance made possible by the internet to resist automation by the mainstream press. But their approbation need not invalidate an interpretation that is, anyhow, so easily politicised and intractably slippery (hence the clinical stress placed on self-diagnosis and the overturning of disavowal). And they, too, of course, readily present as Trump addicts – hooked, like their ineffectually teetotal messiah, on a diet of media that simultaneously manufactures and panders to the whims of addiction, by erasing the line between comforting illusion and the harshness of reality.

Detox philosophy?

It is no longer deemed the case that only some forms of (mainstreamed, mainlined) intoxicant are inherently addictogenic; that the safety of sobriety comes with avoiding a range of narrowly recognised threats. Plato saw the liberatory potential of writing, but only by also recognising that its liberation is inextricable from the diminishment of nonverbal communication and a corresponding weakening of trust. The abstract rules of written grammar, and the new techniques of thought to which writing gave rise, created a critical distance, loosening the hold of compulsion and disautomating the blind automation of oral memory. But writing can still, of course, be an object of pathological intoxication; a later (eighteenth and nineteenth-century) epidemic of addiction to novels will be additional proof of that.[74] Likewise that other tool for the automation of mob impulses: Twitter. In a climate of more pervasive anxiety and psychosocial dislocation, caused, for instance, by the social fallout of technological change, and the exposure of the human sensorium to new forms of experience that further blur the boundary between truth and mere appearance, techniques of disautomation can leave us even more susceptible to the intoxicating, ecstasy-promising temptations of the machine zone.

The post-2016 boom in techno-demagoguery has elicited a scramble to develop methods for the detection and mitigation of fake news, from the enhanced Ai solutionism proposed by Facebook, to the kind of economy-of-contribution-style, participation-augmenting, methods for the collective certification of news sources that Stiegler would advocate. The latter, in particular, acknowledge the scale of the technological reorganisation of society hinted at by Plato, 'the great heir of a still dominantly oral culture – in place by habit or preference, not technological necessity – and simultaneously its destroyer'.[75] The philosopher's position as a vector of recomposition in the midst of a society-wide technological phase-shift is reflected in Havelock, who saw Socratic Athens as the last stand of the oral, 'poetic' tradition; of an 'acoustic technology of epic ... rendered obsolete by the technology of the written word'.[76] The reflection is reinforced by his reading of Plato's legendary antipathy towards poetry, exemplified in the banishing of poets from the ideal city of the *Republic* (394c-395a, 412e). The poet was emblematic of an outmoded pedagogical order: one where the use of pleasurable song and rhyme to wire laws into the brain was no longer stable enough to engender disciplined participation in the life of the city and, in the anxiety-inducing world of the *demos*, had even become a 'corruption of the mind' (595b), a 'kind of psychic poison' that short-circuits reason and encourages withdrawal into zones of intoxication.[77] The function of philosophy as disautomation, by contrast, was to readjust Athenian society around a

new technical-social order; to narrow the disadjustment between a technical system increasingly dominated by literacy and a social-political system of support that, still organised around the failing norms of oral culture, proved increasingly inadequate to the functioning of the *polis*. It was also to overturn psychosocial dislocation in the face of emerging automation anxiety and reintegrate citizens into the social and technical systems of their cultural environment, by reinventing education around the technology of writing. This is what Stiegler has termed *penser/panser*, or thinking as tending to wounds, where education serves as the instrument of readjustment.[78] Plato's programme for it is most clearly visible in the *Laws* (c.347 BCE), which, reflecting the passage of time and the settling of the reformed *demos* around written culture, seems more at ease with the world of the alphabet than the residually oral-cultural *Republic*. His presumed final work certainly makes the connection between reorganising Athenian society around the challenges posed by writing and preventing the kind of institutional degradation that led to tyranny and the collapse of the *demos* at the end of the fifth century. Reflecting on the practical and moreover *written* laws that could be implemented to establish order in a proposed new Cretan colony, the *Laws*' 'Athenian stranger', routinely agreed to be an avatar of Plato, laments the degeneration that ensues when law is encoded in 'unwritten custom', which is to say, in the constitutively mutable poems of oral culture, and overseen by the very people whose unruly habits it is supposed to keep in check (793b-c). He even sees in written laws, governing who could drink and sing what, where and when (670b-671d, 674a-c), the possibility of salvaging the debauched symposia from the 'frenzied and excessive lust for pleasure' that had left Athenians 'in a kind of "voluntary slavery"' (700a-d). Those laws will be underpinned, too, of course, by the cultivation of a rational, critical, philosophical disposition designed to strengthen the spirit against its enslavement by appetite. Its task is to coax us out of our machine zones, away from both the automation of the nervous system and the anxiety that leads us to take refuge in oblivion.

In the digital age of Trump, and the aftermath of the disease model, the difference between the cold light of truth and the cave of illusion appears ever more evanescent, and even written law risks losing force against the fever dreams of the machine zone. If love and writing can be addictive, then we might similarly be wary of the temptation to use philosophy itself as a technique of therapeutic disavowal, employed to turn inwards, and away from the world it is charged with reinventing. Echoing what Alcibiades, in the *Symposium*, caricatured as 'the madness, or Bacchic frenzy, of philosophy' (τῆς φιλοσόφου μανίας τε καὶβακχείας, 218b), Vernant observes that the ambivalent space between the symposium and the *polis*, between anxiolytic withdrawal and a return to the public sphere, is where the so-called love of knowledge is born and perhaps forever remains.[79] The observation, which serves as the point of departure for a follow-up to this article,[80] stands as a reminder that what readjusts in the aftermath of one technological revolution will only symptomatise and exacerbate the disadjustment of another. One might say that philosophy, too, will have to be disautomated, which is to say, forced to revisit habits and tendencies that, with hindsight, might reappear as self-indulgent and masturbatory withdrawal, dressed up as salvation.

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[1] This article forms part of a bigger research project on 'Real Smart Cities', which has received funding from the European Union's Horizon 2020 research and innovation programme under the Marie Skłodowska-Curie grant agreement No.777707.

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[5] The term comes originally from the title of a 2009 conference of France's National Association of Drug-Abuse [*toxicomanie*] and Addictology Practitioners (ANITeA), before being reprised in Stiegler's *What Makes Life Worth Living*: *On Pharmacology*, trans. Daniel Ross, Cambridge, Polity, p27.
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